QUEENSTOWN LAKES DISTRICT COUNCIL

Audit, Finance & Risk Committee
4 October 2018

Report for Agenda Item 5

Department: Property & Infrastructure

Infrastructure Earthquake Loss Modelling and Insurance Report

Purpose

1 To consider the findings of recent Maximum Probable Loss modelling for Three Waters infrastructure and the associated asset insurance requirements.

Recommendation

That the Audit, Finance & Risk Committee:

1. **Note** the contents of this report and in particular;
2. **Agree** to the principle of insuring underground assets to a limit equivalent to the Maximum Probable Loss estimate (insured value) for the worse case 1,000 year Average return interval earthquake event.
3. **Recommend** to increase insurance limit to be equivalent to, or as near as possible to, maximum probable loss estimate e.g. for 2018 $130m.
4. **Note** the potential financial risk due to the lack of guidance on the central government contribution to recovery costs and that assistance may be required to attain clarity on this going forward.
5. **Agree** to the completion of a workshop to consider the broader resilience issues across the district.
6. **Note** that future asset valuations will include financial and insurance values.
7. **Note** that a vulnerability and resilience strategy is to be developed that will define long term goals in response to the obligations, for lifeline utility infrastructure, under the Civil Defence and Emergency Management Act 2002.

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20/09/2018	21/09/2018

Background

2 As a lifeline utilities provider, territorial authorities have obligations under the Civil Defence and Emergency Management Act 2002 (the Act) and the associated National Civil Defence Emergency Management Plan Order 2015, as described in The Guide to the National Civil Defence Emergency Management Plan 2015, including:

a. The main duty of lifeline utilities during and after an emergency is to be able to deliver the services they normally provide to the fullest possible extent (even though this may be at a reduced level). (Section 13.1.1 of the guide)

b. Service levels to aim for during and after an emergency need to be identified prior to an emergency through business continuity planning. (Section 13.2 of the guide)

c. Identify and understand the full range of hazards and risks and implement reduction strategies.(Section 13.3 of the guide)

d. Develop business continuity plans to (Section 13.4.1 of the guide) —

   i. identify critical assets and business processes, assess their vulnerabilities, and undertake appropriate actions to reduce the risks they face;

   ii. outline response and recovery arrangements, including appropriate contracting arrangements with key suppliers; and

   iii. focus on both reduction and readiness, including planning co-operatively with other lifeline utilities (whether or not in the same sector).

e. Government financial support is based on the expectation that local authorities will be primarily responsible for bearing the financial costs of the impact of an emergency in their geographical and functional areas of responsibility. (Section 33.3 of the guide)

f. Government financial support to local authorities does not imply an obligation to restore a community (Section 33.3 of the guide) —

   i. to a better state than existed before the emergency; or

   ii. to previous levels if those levels are not sustainable in the long term.

3 The precedent set following the Christchurch earthquake sequence in terms of paragraph 2f.i above, is that central government will pay 60% of depreciated replacement value. However, this is not clearly stated in the Act, plan or guidelines.

4 The 60% contribution from Central Government was under review, but this review is on hold under the new government.

5 Council’s three waters assets are insured under two policies –

a. Underground assets (pipes, manholes, etc.) are insured on a natural catastrophe policy, with a current limit of $100m (total loss, assuming central government will contribute 60% of that limit). This is a collective insurance policy with seven other south island councils with a total pool limit of $250m. This collective increases buying power while geographically spreading the risk for the underwriters. Renewing November 2018.

b. Above ground facilities (pump stations, treatment plants, etc.) are insured on a material damage policy as additional damage may occur to these assets.

Comment

6 Following the Insuring Public Infrastructure Assets Against Damage Caused by Natural Disaster Events guideline (IPWEA 2014) it is recommended that the insurance value for assets considers additional costs above the financial valuation that are only likely to occur following a major event, e.g. demand surge, large scale demolition or temporary worker accommodation. These factors are included in the numbers below, and are intended to be formally incorporated into the next asset valuation.

7 Maximum Probable Loss (MPL) modelling has allowed Council to quantify the financial risk of natural catastrophe losses and understand deficits in datasets.

8 At the time that the modelling was undertaken New Zealand Treasury were advising that the 1,000 year Average Return Interval (ARI) event would be the upper benchmark where territorial authorities were expected to provide cover.

9 Generation I MPL modelling considered four earthquake event scenarios with resulting MPL estimates (insurance value):

a. 500 Year ARI, Moonlight fault. MPL of $131m.

b. 1,000 Year ARI Moonlight Fault. MPL of $173m.

c. 1,000 Year ARI Cardrona Nevis Fault. MPL of $202m.

d. Next Alpine Fault event. MPL of $30m.

10 The worst case above (1,000 year ARI Cardrona Nevis fault) is made up of the following:

a. Underground Assets $135m.

b. Above ground facilities $67m.

11 It should be noted that the MPL modelling used cost rates significantly higher than those in QLDCs financial valuation which have been proven unrealistic. To align with the current financial valuation the values have been factored down, however factors (as per section 3 above) totalling approximately 20% have then been added to assess the insurance value.

12 Following advice from Council's insurance brokers we have lodged a request with the underwriters for an option to increase QLDCs underground asset insurance limit to $130m (total loss, assuming central government will contribute 60% of that limit). This is a balance between providing cover for the MPL estimate and the maximum that the brokers consider would not cause a significant spike in premium or cause an imbalance within the collective policy.

13 If Central Government only contribute 60% of depreciated value, council may be left with a significant financial risk to cover the difference between depreciated value and replacement value, as well as the potential cost increases that may occur post natural catastrophe.

Future Improvements

14 An infrastructure vulnerability and resilience strategy is to be developed that will define long term goals in response to the obligations, for lifeline utility infrastructure, under the Civil Defence and Emergency Management Act 2002. This will provide an approach that will minimise the effect of a natural catastrophe, or other disaster event, while balancing the Local Government Act requirements for efficient and effective infrastructure.

15 A legal review is to be undertaken in regards to confirming council's obligations under the Act, and attaining clarification of central government's contribution to recovery costs. This clarification may require a more direct approach to central government.

16 Following updates to a number of datasets a second generation of the MPL modelling is underway, this update includes, but is not limited to:

a. review of asset costs and post disaster factors. This will also form the basis of the next financial valuation;

b. Update on understanding of underground asset condition and expected lives;

c. Inclusion of results of fault line review completed by GNS science in 2017/18;and

d. Cross comparison to work completed by the Alpine Fault Magnitude 8 Project (AF8) being managed by Emergency Management Southland.

17 The generation II analysis will not be completed in time to inform the next underground asset insurance policy renewal, but will form the basis of future renewals and the resilience strategy.

18 This work has brought forth cross activity discussions on resilience and recovery planning. Through this it has become apparent that council is not yet able to quantify the district's resilience across core infrastructure activities. Therefore it is assumed that quantifying resilience at a broader level district wide (e.g. societal & economic resilience as well as infrastructure) would also be difficult.

19 It is recommended that a broader resilience assessment should also be considered, with one option being the UNISDR Disaster Resilience Scorecard for cities. This has recently been modified for district council use and trialled by Tasman district Council with significant success. The assessment would likely be in the form a two day workshop potentially comprising of QLDC, regional council, NZTA and CDEM staff and councillors, potentially along with other utility providers and major business.

20 Benchmarking resilience will allow Council, residents and businesses understand resilience and where inputs might be required to improve resilience over time.

Options

21 Option 1 – Retain $100m insurance limit.

Advantages:

22 Lower cost to ratepayers.

Disadvantages:

23 May not fulfil the expectation that local authorities will be primarily responsible for bearing the financial costs of the impact of an emergency:

a. Unless significant debt funding is used to fund disaster recovery.

b. The central government contribution may also be at risk.

24 Option 2 – Increase to insurance limit to be equivalent to, or as near as possible to, maximum probable loss estimate e.g. for 2018 $130m.

Advantages:

25 Minimise debt funding for recovery and

26 Spread costs over time by utilising risk transfer

Disadvantages:

27 Some cost increase to ratepayers. Cost increase yet to be confirmed.

28 This report recommends Option 2 for addressing the matter to balance current costs with obligations under The Act and to minimise the potential use of debt to fund disaster recovery.

Significance and Engagement

29 This matter is of low significance, as determined by reference to the Council's Significance and Engagement Policy. Although the matter is of considerable interest to the communities of the district, the key decision is to agree small increase in insurance limit which would have a limited financial effect on the community.

Risk

30 This matter relates to the strategic risk SR3 - Management Practise - working within legislation, as documented in the Council's risk register. The risk is classed as moderate. This matter relates to this risk because the primary legislation which Council operates within requires Council to have the ability to fund its share of natural catastrophe recovery costs.

31 The recommended option considered above mitigates the risk by transferring the risk through contracts or other agreements with external agencies.

Financial Implications

32 A recent opportunity to talk directly to the insurance underwriters alongside council's insurance brokers to explain the work that is underway in regards to understanding the three waters infrastructure data, vulnerability and resilience was well received by the underwriters.

33 Premiums for renewal are not yet known, but there have been general increases in insurance premiums since the Christchurch earthquake sequence and the Kaikoura earthquake event losses. It is expected that an increase in premium will follow for the collective policy that may require an increase in budget for the year.

34 It should be noted that, in current market conditions, some of the more vulnerable councils within New Zealand (mainly Wellington) may not be able to attain full capacity for insurance of their assets.

Council Policies, Strategies and Bylaws

35 The following Council policies, strategies and bylaws were considered:

- 10-Year Plan 2018-2028 strategic framework contributing to efficient and effective infrastructure and a responsive organisation

36 The recommended option is consistent with the principles set out in the named policies.

37 This matter is not explicitly identified in the 10-Year Plan/Annual Plan as a separate line item or activity.

38 It can be delivered within general infrastructure management activities.

Consultation: Community Views and Preferences

39 The persons who are affected by or interested in this matter are residents/ratepayers.

Legal Considerations and Statutory Responsibilities

40 Staff will continue to work with the in-house legal team to clarify the obligations under the act.